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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/695,604 10/24/00 HINTZ

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EXAMINER

GONZALEZ, J

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/695,604

Applicant(s)

HINTZ ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Drawings

✓ 1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the coupled between a voltage source and the additional input as disclosed in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ In claim 1, applicant discloses that the processor is coupled to the output. Which output would that be? The output of the transformer? The amplifier? The A/D converter?

✓ Applicant discloses in claim 6 an output being converted. What is this output from? The amplifier? Current transformer? Which feedback network?

In claim 10, the statement "additional input, and; coupled between a voltage source and the additional input" needs clarification. It seems like if the same additional input is coupled between itself.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2834

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 5, 7-17, 19 and 21 rejected under 35 U.S.C. 103(a) as being

unpatentable over Rice et al in view of Yamaguchi.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier.

However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor R_{in} , a feedback resistor R_1 , connected between the input and output, an adjustment resistor R_2 and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi.

6. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and Denaci.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier.

However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor R_{in} , a feedback resistor R_1 , connected between the input and output, an adjustment resistor R_2 and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

However, neither Rice et al nor Yamaguchi disclose an A/D converter being connected to the processor.

On the other hand, Denaci discloses for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition, an A/D converter 48 being connected between the processor 26 and the amplifier 46 (see figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a

switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi and to use an A/D converter for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and Ashley et al.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier.

However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor R_{in} , a feedback resistor R_1 , connected between the input and output, an adjustment resistor R_2 and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1). However, neither Rice et al nor Yamaguchi et al disclose the use of a transistor as a switch.

On the other hand, Ashley et al uses FET 115 in series with a resistor 114 for the purpose of having an equal voltage drop and improving stability in the circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi and to use an A/D converter for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition and to use FET transistors as switches for the purpose of having an equal voltage drop and improving stability in the circuit as disclosed by Ashley et al.

8. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and ordinary skill in the art.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier.

However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor R_{in} , a feedback resistor R_1 , connected between the input and output, an adjustment resistor R_2 and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

Rice et al and Yamaguchi disclose the claimed invention except for specific threshold ranges.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

Response to Arguments

9. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Also, with regards to claims 4, 5, 8, 9 and 11-13, it should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In *re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In *Hewlett-Packard Co v Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does." (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

That is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim,

regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

November 1, 2001


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